

## (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
15 January 2004 (15.01.2004)

PCT

(10) International Publication Number  
**WO 2004/005910 A1**

(51) International Patent Classification<sup>7</sup>: G01N 27/447,  
B01L 3/00, B01D 57/02

(74) Agents: MAGGS, Michael, Norman et al.; Kilburn &  
Strode, 20 Red Lion Street, London WC1R 4PJ (GB).

(21) International Application Number:  
PCT/GB2003/002926

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,  
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,  
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,  
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,  
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,  
MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC,  
SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA,  
UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(22) International Filing Date: 8 July 2003 (08.07.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
0215779.0 8 July 2002 (08.07.2002) GB

(84) Designated States (*regional*): ARIPO patent (GH, GM,  
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),  
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,  
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,  
SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM,  
GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(71) Applicant (*for all designated States except US*): DELTA-  
DOT LIMITED [GB/GB]; 47D Princes Gardens, London  
SW7 2PE (GB).

(72) Inventors; and

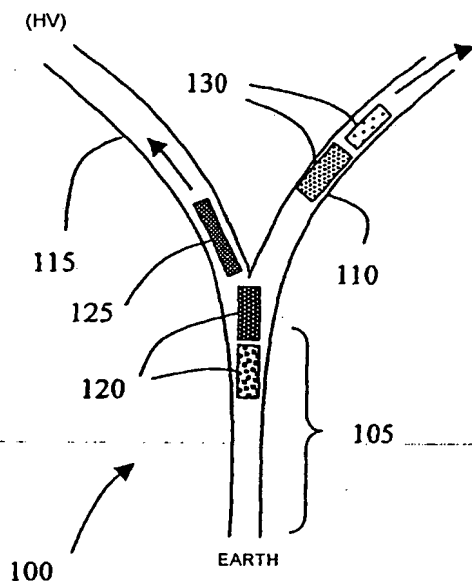
(75) Inventors/Applicants (*for US only*): HASSARD, John  
[GB/GB]; Deltadot Ltd, 47D Princes Gardens, London  
SW7 2PE (GB). MCKIGNEY, Ed [GB/GB]; Deltadot  
Ltd, 47D Princes Gardens, London SW7 2PE (GB).

Published:

— with international search report

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: MATERIAL SEPARATION DEVICE



(57) Abstract: A separating device for use in separating electrically charged components e.g. by electrophoresis comprises a channel branched at a branch point to provide a main feed channel (105) connected to at least two subsidiary channels (110, 115). In use, different components (120, 125, 130) show differential migration along the feed channel (105) so they can be separated into different subsidiary channels (110, 115) at the branch point. To support this separation, the separating device is provided with switchable voltage control means for controlling local voltages in the region of the branch point to provide potential differences of opposing polarity along the respective subsidiary channels (110, 115) such that a component to be separated (125) can be caused to migrate from the feed channel into a different subsidiary channel (115) from one or more other components.

WO 2004/005910 A1